

**Brazos River and Associated Bay and Estuary System
Basin and Bay Stakeholder Committee (BBASC)**

Thursday, October 1, 2015 at 10:00 a.m.

Brazos River Authority Central Office located at 4600 Cobbs Drive, Waco, Texas

Minutes

Members Present: Dale Spurgin, Chair; Tom Michel, Vice-Chair; Cindy Bartos; Nicole Torralva (for David Blackburn); Phil Ford; Horace Grace; Brian Hays; Jeff Goodwin; Kevin Wagner; Dan Loomis; Ed Lowe; Curt Mowery; Tommy O'Brien; Ned Meister; Ken Kramer; Eddie Saucedo; Ivan Lanford; Glenn Lord; David Kuehler

Call to Order

Chair Dale Spurgin called the meeting to order and the member attendance was taken.

Public comment

There were no public comments made at this time.

Approval of Meeting Minutes

BBASC Members unanimously approved the January 29th, 2015 meeting minutes.

Discussion and Appropriation Action Regarding Nominations for the Chemical Manufacturing, Agricultural Irrigation, and Municipal Interest Vacancies on the Stakeholder Committee

Chair Dale Spurgin informed members that Glenn Lord, David Kuehler, and Ivan Langford were nominated to fill the Chemical Manufacturing, Agricultural Irrigation, and Municipal Interest vacancies, respectively. The nominees were provided the opportunity to present their qualifications for the positions. Through majority vote, members confirmed Glenn Lord as the new representative for Chemical Manufacturing interests, David Kuehler as the new representative for Agricultural Irrigation, and Ivan Langford as the new representative for Municipal.

Discussion and Appropriation Action regarding creating vacancy for the Commercial Fishing Interests on the Stakeholder committee

Chair Dale Spurgin informed members that Patrick Riley had resigned as representative for the Commercial Fishing interest group. Chair Spurgin made a motion to create a vacancy for the Commercial Fishing interest group and the motion was approved unanimously. Dale Spurgin requested that Leslie Patterson, TCEQ, initiate the nomination process for the vacancy.

Presentation on SB3 Environmental Flows Validation Study

Ed Oborny, BioWest, Dr. Timothy Bonner, Texas State University, Dr. Jacquelyn Duke, Baylor University, and Dr. George Guillen, University of Houston Clear Lake, provided an overview and some preliminary findings of the funded Environmental Flows Validation study. The stated goals of the project are to enhance the understanding of flow-ecology relationships and develop a methodology for testing established flow standards.

Dr. Bonner presented the sampling activities and results of the aquatics portion of the study. Bonner described the habitats sampled and different pulse tiers that were used to evaluate the standards. He gave a summation of the statistical analysis performed to calculate results. The conclusions found two results with statistical relevance: as flow tier increased, abundance for slackwater fishes increased and as flow tier increased, abundance of darter species decreased. Other relationships were not statistically significant. Recommendations for future studies include more time for further data collection and analysis of flow ecology relationships at different time scales.

Dr. Duke presented the results of the riparian component of the study. She informed members that the study team selected three indicator species (Black Willow, Box Elder, and Green Ash) to evaluate seedling, sapling, and mature tree distribution, maintenance, recruitment, and survival. The study investigated whether the deposition of seedlings is consistent with distribution with more mature populations. She demonstrated that establishment of seedlings on the river bank correlated with water levels reached during pulse flow events. The study evaluated standards based on when 80% of trees sampled are inundated by flow. Flooding hampered sampling, but could lead to more studies of disturbance. A summary of results found that the base flow in the TCEQ standards met one out of 13 species covered using the 80% inundation goal. With the highest dispersal elevation, flow tier standards were not meeting tree needs. The exception is the 1 year pulse recommended by BBEST which did meet 80% of inundation goal for all indicator species; however, it was emphasized that timing of this pulse to benefit riparian communities was not evaluated in this study. A further area of study would use tree coring to see how trees respond to extremely wet and dry (outlier) years using age distribution.

Dr. Guillen presented the Brazos estuary portion of the study. The study aimed at identifying baseline conditions of Brazos estuary and how it responds to varying flow regimes. The study team selected 8 sites, including 3 continuous monitoring sites and both water quality data as well as fish and mobile invertebrates (i.e. shrimp and crabs) were collected. Field data was analyzed to assess relationships between water quality and species abundance to salinity and freshwater discharge. Sampling during dry events showed an intrusion of salt water 22 to 31 kilometers upstream, as well as, correlated with low dissolved oxygen (DO) in upper reaches of river though no hypoxic ($DO < 2.0$ ppt) events were observed. When repeated freshwater pulses occur, researchers saw a continuation of low salinity water for extended periods. Analysis of nutrient grab samples over various flow tiers and discharge showed a general increase in chlorophyll, suspended solids, nitrate/nitrite and phosphorus at higher flows in the lower river. In general, the amount of estuary dependent species decreased as discharge increased, especially in the upper river. Overall, water quality and species abundance responded predictably to instream flows. Data collection of this magnitude is very challenging and would benefit from more time. The current study design allows for refinement of techniques and types of data collected; however, the study team only sampled during one half of 2014 and additional data collection would allow for a better evaluation of productivity in the Brazos estuary.

Mr. Oborny spoke broadly about study recommendations and moving forward on research. For the aquatics portion of research, the team didn't have as much replication of pulse events as they would have liked and more data is needed. For the riparian portion, most of the standards didn't meet 80% rule relative to riparian health. The 1 per year event did meet 100% of riparian need, but timing of the event is important. For the estuary portion, more data is needed over a longer period of time. As far as practical application of this research, a standardized approach with multiple ecological components is recommended to validate the flow standards. This approach would be agreed upon by BBASC and TCEQ and would have a multi-tier approach (i.e., floodplain connectivity, riparian assessment, aquatic assessment, etc.). Expert workshops may be able to identify which ecological components are missing in research. The BBASC should decide which components are most important to evaluate.

Members inquired about how far upriver the Brazos estuary spans and if the Rosharon gage is part of the estuary. Also, stakeholders questioned the role of rainfall in riparian health and whether that was considered in this study. Mr. Oborny responded that BBEST used the Rosharon gage as default, but it is not part of the estuary. Rainfall is absolutely an important component and the study had utilized rain gages at all riparian sites to determine other inputs of freshwater. Stakeholder also inquired about the impacts on blue crabs from freshwater inflows to the Gulf. Dr. Guillen responded that adult crabs are affected by flow in Brazos, but the committee would have to discuss whether that needed to be pursued with more research.

Mrs. Patterson commented that the report has not been distributed to all members at the time of meeting. Nolan Ralphelt, TWDB, responded that the report would be available in a few days and Mrs. Patterson will distribute the report to all BBASC members.

2016-2017 Funding for Environmental Flows Studies and Scope of Work Development

Nolan Ralphelt, Texas Water Development Board (TWDB), informed members that it is likely that the group will have \$400,000 available for next round of funding, although there is a small chance that the funding could be \$300,000. Ideally, the scope of work would be submitted by the end of October 2015 so that the TWDB can approve it by December 2015. The request for qualifications (RFQ) will be distributed as early as January 2016. If the BBASC wanted to pursue additional work that is not in work plan, then the BBASC would need to submit a supplement to their original work plan. The Board's tentative upcoming meeting dates are December 7th, 2015 and December 21st, 2015. Mr. Ralphelt indicated there will be more meeting dates in January 2016, but that would limit the time that the science teams have to complete their research and that the funding is through August 31, 2017.

Chair Spurgin asked members if a subcommittee was needed to identify and develop new scopes of work. Stakeholders discussed whether to continue funding the recently concluded studies or develop new scopes of work. Members were in agreement to resubmit the previously developed scope of work for the previous funding cycle with the aim of continuing with the recently completed study as described above. A stakeholder

inquired about the costs to continue the current study. Mr. Oborny responded that the team was awarded \$312,000 in funding from the Brazos BBASC during the previous funding cycle and the full amount of funds (~\$400,000) would be well received for 2016-2017.

Briefing from Brazos Watermaster

Molly Mohler, TCEQ, provided an overview of the Brazos Watermaster program. The program officially started on June 1, 2015. The program spans from Possum Kingdom to the Gulf of Mexico. The watermaster team has a total of 6 full time staff. At present, 62% of water right holders have been contacted which represent 90% of water in basin. Since June 2015, 950 diversion requests have been made, not including BRA contract holders. Additionally, a 15 member advisory committee is reporting to the watermaster and will meet quarterly. The committee had their first meeting in April 2015.

Financial Update

There are no financial transactions since time of last meeting.

Other Items

Mrs. Patterson informed members that the TCEQ Environmental Flows basin webpages are being updated to make the pages more user-friendly.

Next Meeting Date and Future Agenda Items

A doodle poll will be distributed to members to determine the next meeting date.

Public comment

A stakeholder asked for an update on EFAG approval of the work plan. Mrs. Patterson indicated that the EFAG has no upcoming meetings planned.

Jordan Dimick, P.E., from LRE Water made comment that the BBASC was doing topnotch quality of work from the hydrology standpoint.

Adjourn